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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,039	07/03/2001	Seiichi Takeuchi	56937-029	2497

7590 06/07/2005

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EXAMINER	
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ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/897,039	TAKEUCHI ET AL.
	Examiner	**Art Unit**
	Andy S. Rao	2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 December 2004_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-38_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-38_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 12/8/04 with respect to claims 11-21 (amended) have been considered but are moot in view of the new ground(s) of rejection based on newly cited portions of the previously applied references addressing the newly added limitations.

2. Applicant's arguments filed on 12/8/04 with respect to claims 1-10, and 22-38 have been fully considered but they are not persuasive.

3. Claims 1, 4-6, and 32-35 remain rejected under 35 U.S.C. 102(e) as being anticipated by Shen et al., (hereinafter referred to as "Shen"), as was set forth in the Office Action of 8/11/04.

4. Claims 2-3, 7-8, 22-28, 30-31 and 36-38 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen") in view of Florencio.

5. Claims 9-10 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen"), as was set forth in the Office Action of 8/11/04.

6. Claim 29 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen") in view of Florencio as applied to claim 22 above, and further in view of Smith et al., (hereinafter referred to as "Smith"), as was set forth in the Office Action of 8/11/04.

7. The Applicant presents six arguments contending the Examiner's rejections of claims 1, 4-6, and 32-35 under 35 U.S.C. 102(e) as being anticipated by Shen et al., (hereinafter referred to as "Shen"), the rejection of claims 2-3, 7-8, 22-28, 30-31 and 36-38 under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen") in view of Florencio, the claims 9-10 under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred

to as "Shen"), and the rejection of claim 29 under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen") in view of Florencio as applied to claim 22 above, and further in view of Smith et al., (hereinafter referred to as "Smith"), as was set forth in the Office Action of 8/11/04. However after a careful consideration of the arguments presented, the Examiner must respectfully disagree for the reasons that follow.

After summarizing the instant invention as recited in the claims (Amendment of 12/8/04: page 17, lines 8-17; page 18, lines 1-2) and providing a rudimentary explanation of the applied Shen reference (Amendment of 12/8/04: page 18, lines 3-14), the Applicants argue that Shen fails to read upon the "leaving only one 'non-zero' coefficient and transcoding all the other DCT coefficients to zero..." as in the claims (Amendment of 12/8/04: page 18, lines 15-21; page 19, lines 1-6). The Examiner respectfully disagrees. While the reference teaches that a predetermined level of truncation using only 13 coefficients is used for most purposes as noted by the Applicants (Shen: column 5, lines 20-42), the Examiner notes that the reference further allows for a greater degree of truncation over the preset/ default truncation of 13 coefficients for a quantization matrix is available based on different coding rates, picture sizes, and etc. (Shen: column 6, lines 54-65). The greater degree of truncation as shown in figure 6, has x1, x2, x3, x4, x5, x6, x7, x8, x9 as the selectable coefficients to truncate or not truncate, and thus with only x1 being selected, this corresponds to leaving only one 'non-zero' coefficient behind, while all the others are transcoded to zero. The one non-zero coefficient would be located in the upper left hand corner of the matrix at position x1, and thus would read on the "leaving only one 'non-zero' coefficient and transcoding all the other DCT coefficients to zero..." as in the claims. Accordingly, the Examiner maintains that this limitation is met.

Secondly, the Applicants argue that argues that Shen fails to read upon the "leaving only a DC coefficient in the DCT block detected to contain the DCT coefficients in the intra-macroblock and transcoding all the other AC coefficients to '0'..." as in claims 4 and 13 (Amendment of 12/8/04: page 19, lines 6-22; page 19, lines 1-6). The Examiner respectfully disagrees. While it is noted that a predetermined level of truncation in Shen discloses using only 13 coefficients for most purposes (Shen: column 5, lines 20-42), a greater degree of truncation over the preset 13 coefficients for a quantization matrix is available based on different coding rates, picture sizes, and etc. (Shen: column 6, lines 54-65). The greater degree of truncation as shown in figure 6, has x1, x2, x3, x4, x5, x6, x7, x8, x9 as the selectable coefficients to truncate or not truncate, and thus with only x1 being selected, this corresponds to leaving only one 'non-zero' coefficient behind, while all the others are transcoded to zero. The one non-zero coefficient would be located in the upper left hand corner of the matrix at position x1 and corresponds to the DC coefficient of the quantization matrix while the rest of the other coefficients are the higher order AC coefficients corresponding the positions x2-x9 (Shen: column 5, lines 20-22), and thus this implementation would read on the "leaving only a DC coefficient in the DCT block detected to contain the DCT coefficients in the intra-macroblock and transcoding all the other AC coefficients to '0'..." as in the claims. It is further noted that the scaling mentions occurs in addition to the truncation so that scaling/weighting would be initiated on the truncated matrix to adjust the values of the DC and AC coefficients (Shen: column 7, lines 35-56). Accordingly, the Examiner maintains that this limitation is met.

Thirdly, the Applicants argue that Shen fails to read on "transcoding all the other DCT coefficients to '0' based on the data structure analyzing result..." as in the claims (Amendment

of 12/8/04: page 20, lines 1-21). The Examiner respectfully disagrees. It is noted that the that both the truncation and the scaling of the quantization matrix is based on activity of the block (Shen: column 7, lines 20-27) and further discloses that this activity is based on a complexity measurement of the coded picture (Shen: column 3, lines 40-50), and both of these measurements are results based on analysis of the data structure of a block and thus would read upon the limitation in question. Accordingly, the Examiner maintains that Shen reads on the "transcoding all the other DCT coefficients to '0' based on the data structure analyzing result..." limitation as in the claims.

In response to applicant's arguments against the individual Shen reference (Amendment of 12/8/04: page 21, lines 1-21; page 22, lines 1-12), one cannot show nonobviousness by attacking the reference individually where the rejections are based on combinations of references and teachings. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, although Shen was modified to incorporate the "chrominance" and "luminance" teachings in accordance with the disclosed MPEG standard, and thus the modified Shen reference does not need to address the limitation of "transcoding all the other DCT coefficients to '0' based on the data structure analyzing result..." as in the claim, when the unmodified Shen reference has already been shown to address that limitation.

In response to applicant's arguments against the Florencio reference individually (Amendment of 12/8/04: page 22, lines 12-22; page 23, lines 1-23), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, since Shen has been shown the sufficiently address the "leaving only a DC coefficient in the DCT block detected to contain the DCT coefficients in the intra-macroblock and transcoding all the other AC coefficients to '0'..." limitation, Florencio does not need to account for this limitation, as it would be met with the combination with Shen.

In response to applicant's arguments against the Shen reference individually (Amendment of 12/8/04: page 24, lines 6-23), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, since Florencio has been shown the sufficiently address the "computer readable-medium..." limitation, Shen does not need to account for this limitation, as it would be met with the combination with the secondary reference.

A detailed rejection on amended claims 11-21 follows.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 11, 13-14, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Shen et al., (hereinafter referred to as "Shen").

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in a macro block (Shen: column 5, lines 45-60); leaving as is only one "non-zero" coefficient encountered first in scanning in said DCT block detected to contain said DCT coefficient and transcoding all the other DCT coefficients to "0" (Shen: column 7, lines 1-22); and outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5), as in claim 1.

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in an intra-macro block not accompanied by predictive coding (Shen: column 5, lines 45-60; column 8, lines 10-15); leaving as is only a DC coefficient in said DCT block detected to contain said DCT coefficient in said intra-macro block and transcoding all the other AC coefficients to "0" (Shen: column 7, lines 20-32); and outputting said bitstream

having a code quality thereof reduced by said transcoding step (Shen: column 8, lines 1-5), as in claim 4.

Shen discloses a bitstream transcoding method (Shen: figure 8) comprising the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in a macro block (Shen: column 5, lines 45-60); leaving as are only the first through N'th coefficients (N: natural number) in said DCT block detected to contain said DCT coefficient and transcoding all the other DCT coefficients to "0" (Shen: column 5, lines 20-34); and outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-50), as in claim 5.

Regarding claim 6, Shen discloses that predetermined AC coefficient is assigned as said coefficient to be left as is (Shen: column 7, lines 25-30), as specified.

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in a macro block (Shen: column 5, lines 45-60); leaving as is only one "non-zero" coefficient encountered first in scanning in said DCT block detected to contain said DCT coefficient and transcoding all the other DCT coefficients to "0" (Shen: column 7, lines 25-30); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-56); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67;

column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 11.

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in an intra-macro block not accompanied by predictive coding (Shen: column 5, lines 45-60; column 8, lines 10-15); leaving as is only a DC coefficient in said DCT block detected to contain said DCT coefficient in said intra-macro block and transcoding all the other AC coefficients to "0" (Shen: column 7, lines 20-3); outputting said bitstream having a code quality thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 13.

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in a macro block (Shen: column 5, lines 45-60); leaving as are only the first through N'th coefficients (N: natural number) in said DCT block detected to contain said DCT coefficient and transcoding all the other DCT coefficients to "0" (Shen: column 5, lines 20-34); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream

having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 14.

Regarding claim 19, Shen discloses wherein, said plurality of bitstream transcoding methods is switched each time a picture not employing predictive coding is input (Shen: column 8, lines 10-15), as in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen").

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient of a signal in a macro block (Shen: column 5, lines 45-60); transcoding all DCT coefficients in said DCT block of said signal concerned in said detection to "0" and changing a coded block pattern correspondingly (Shen: column 7, lines 20-32); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy

picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 17. However, Shen fails to explicitly disclose a chrominance signal processing as in the claim. It is noted that Shen discloses that the video signal processes luminance signals (Shen: column 4, lines 45-48), and further that the input signal also includes color signals to be quantized (Shen: column 1, lines 50-60), and the signal is converted into an MPEG standard signal (Shen: column 1, lines 25-35) and processed on a macroblock level when in MPEG means four blocks of luminance information and two blocks corresponding chrominance information (Shen: column 4, lines 55-65). Accordingly, given this information, it would have been obvious for one of ordinary skill in the art to have the color information converted to chrominance information in order to reduce the number of quantization matrices need for the transcoding method (Shen: column 1, lines 50-65). Then Shen method, now modified to include chrominance signal processing, has all of the features of claim 17.

Shen discloses bitstream transcoding method (Shen: figure 8) comprising the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient (Shen: column 5, lines 45-60) of signal in a macro block (Shen: column 4, lines 55-65); leaving as is only one "non-zero" coefficient encountered first in scanning in said DCT block containing said DCT coefficient of said luminance signal (Shen: column 4, lines 45-50) in a macro block (Shen: column 4, lines 55-65) corresponding to said DCT block of said signal concerned in said detection and transcoding all the other DCT

coefficients to “0" (Shen: column 7, lines 20-32); transcoding all DCT coefficients in said DCT block of said signal concerned in said detection to “0” (Shen: column 5, lines 20-30); and changing a coded block pattern correspondingly (Shen: column 7, lines 1-5); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 18. However, Shen fails to explicitly disclose a chrominance signal processing as in the claim. It is noted that Shen discloses that the video signal processes luminance signals (Shen: column 4, lines 45-48), and further that the input signal also includes color signals to be quantized (Shen: column 1, lines 50-60), and the signal is converted into an MPEG standard signal (Shen: column 1, lines 25-35) and processed on a macroblock level when in MPEG means four blocks of luminance information and two blocks corresponding chrominance information (Shen: column 4, lines 55-65). Accordingly, given this information, it would have been obvious for one of ordinary skill in the art to have the color information converted to chrominance information in order to reduce the number of quantization matrices need for the transcoding method (Shen: column 1, lines 50-65). Then Shen method, now modified to include chrominance signal processing, has all of the features of claim 18.

12. Claims 12, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as “Shen”) in view of Florencio.

Shen discloses a bitstream transcoding method (Shen: figure 8) comprising the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in an inter-macro block (Shen: column 5, lines 45-60; column 8, lines 10-20); leaving as is only a DC coefficient in said DCT block detected to contain said DCT coefficient in said inter-macro block and transcoding all the other AC coefficients to "0" (Shen: column 7, lines 20-30); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 12. However, Shen fails to disclose having the inter-macroblock accompanied by predictive coding such as a motion vector, as in the claim. But Shen does disclose that it does code an inter-modal coding method according to MPEG (Shen: column 1, lines 25-35; column 8, lines 10-20). Florencio discloses that well-known inter-coding techniques for transcoding according to MPEG include both motion compensation predictive P and B coding modes with motion vector scaling (Florencio: column 6, lines 25-67; column 7, lines 1-15) and are employed in order to encode picture sequences more efficiently with restricted bandwidth (Florencio: column 2, lines 13-25). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate Florencio's motion compensation predictive P and B coding modes as the inter-macroblock coding modes of Shen in order to have the Shen method to encode MPEG picture sequences more efficiently with restricted bandwidth. The Shen method,

now incorporating Florencio's motion compensation predictive P and B coding modes, has all of the features of claim 12.

Shen discloses a bitstream transcoding method (Shen: figure 8) comprising the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a macro block type (Shen: column 4, lines 60-65) indicates "... containing of a block having a DCT coefficient" (Shen column 5, lines 20-25 and 45-60); transcoding all DCT coefficients in a macro block concerned in said detection to "0" and transcoding said macro block type to such a type that indicates " having no DCT coefficient" (Shen: column 7, lines 20-32); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 15. However, Shen fails to disclose performing motion compensation, as in the claim . But Shen does disclose that it does code an inter-modal coding method according to MPEG (Shen: column 1, lines 25-35; column 8, lines 10-20). Florencio discloses that well-known inter-coding techniques for transcoding according to MPEG include both motion compensation predictive P and B coding modes with motion vector scaling (Florencio: column 6, lines 25-67; column 7, lines 1-15) and are employed in order to encode picture sequences more efficiently with restricted bandwidth (Florencio: column 2, lines 13-25). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate Florencio's motion compensation predictive P and B coding modes as the

inter-macroblock coding modes of Shen in order to have the Shen method to encode MPEG picture sequences more efficiently with restricted bandwidth. The Shen method, now incorporating Florencio's motion compensation predictive P and B coding modes, has all of the features of claim 15.

Shen discloses a bitstream transcoding method (Shen: figure 8) comprising the steps of: analyzing a data structure or a bitstream to be input to thereby detect whether a macro block type (Shen: column 4, lines 60-65) indicates "...containing of a block having a DCT coefficient (Shen: column 5, lines 45-60), and being a variation point in a quantization step" (Shen: column 6, lines 45-50); transcoding all DCT coefficients in a macro block concerned in said detection to "0" and transcoding said macro block type to such a type that indicates " having no DCT coefficient" (Shen: column 7, lines 20-32); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-52); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claim 16. However, Shen fails to disclose performing motion compensation, as in the claim. But Shen does disclose that it does code an inter-modal coding method according to MPEG (Shen: column 1, lines 25-35; column 8, lines 10-20). Florencio discloses that well-known inter-coding techniques for transcoding according to MPEG include both motion compensation predictive P and B coding modes with motion vector scaling (Florencio: column 6, lines 25-67; column 7, lines 1-15) and are employed in order to encode

picture sequences more efficiently with restricted bandwidth (Florencio: column 2, lines 13-25). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate Florencio's motion compensation predictive P and B coding modes as the inter-macroblock coding modes of Shen in order to have the Shen method to encode MPEG picture sequences more efficiently with restricted bandwidth. The Shen method, now incorporating Florencio's motion compensation predictive P and B coding modes, has all of the features of claim 16.

13. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al., (hereinafter referred to as "Shen") in view of Smith et al., (hereinafter referred to as "Smith").

Shen discloses a bitstream transcoding method comprising (Shen: figure 8) the steps of: analyzing a data structure of a bitstream to be input to thereby detect whether a relevant DCT block contains a DCT coefficient in a macro block (Shen: column 5, lines 45-60)', leaving as is only one "non-zero" coefficient encountered first in scanning in said DCT block detected to contain said DCT coefficient and transcoding all the other DCT coefficients to '0' (Shen: column 7, lines 25-30); outputting said bitstream having a code quantity thereof reduced by said transcoding step (Shen: column 8, lines 1-5); replacing an individual picture in said bitstream to be input with a dummy picture (Shen: column 7, lines 45-56); and outputting said bitstream having a code quantity reduced by said replacing step, wherein the step of outputting said bitstream having a code quantity thereof reduced by replacing step (Shen: column 1, lines 65-67; column 2, lines 1-5), is switched appropriately in configuration (Shen: column 6, lines 45-58), as in claims 20-21. However, the Shen method fails to disclose switching each time a GOP header is input, as in the claim, even though Shen discloses the use of a MPEG standard stream (Shen:

column 1, lines 35-45). Smith discloses that for transcoding, it is known to use the GOP header of an input sequence to store time code information in order to aid in switching in video image processing (Smith: column 10, lines 30-65). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art to incorporate the use of the Smith's teaching of using GOP headers into the Shen method in order to allow for switching in video processing. The Shen method, now incorporating Smith's teaching of using GOP headers, has all of the features of claims 20-21.

Conclusion

14. Applicant's amendment to claims 11-21 necessitated the new ground(s) of rejection based on newly cited portions of the previously applied references presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (571)-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao
Primary Examiner
Art Unit 2613

asr
May 27, 2005

ANDY RAO
PRIMARY EXAMINER